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ABSTRACT

This guide is intended to be used as a companion to "The Competitive Edge: Sharpening Your Skills in the Workplace" curricular materials--the student editions and instructors' guides. It can also stand alone as a reference for individuals just starting to implement or beginning to plan a workplace skills enhancement program in their organization. The guide describes these 14 steps in planning and carrying out a workplace skills enhancement program: plan in advance, identify departments, establish advisory committee, meet with supervisors, schedule task analyses, conduct task analyses, correlate tasks to enabling skills, develop assessment, administer assessment, identify participants, schedule classes, identify instructional materials, provide instruction, and evaluate program impact. Appendixes include five resources and their addresses and telephone numbers for additional information on various aspects of workplace skills enhancement programs and a timeline. (YLB)

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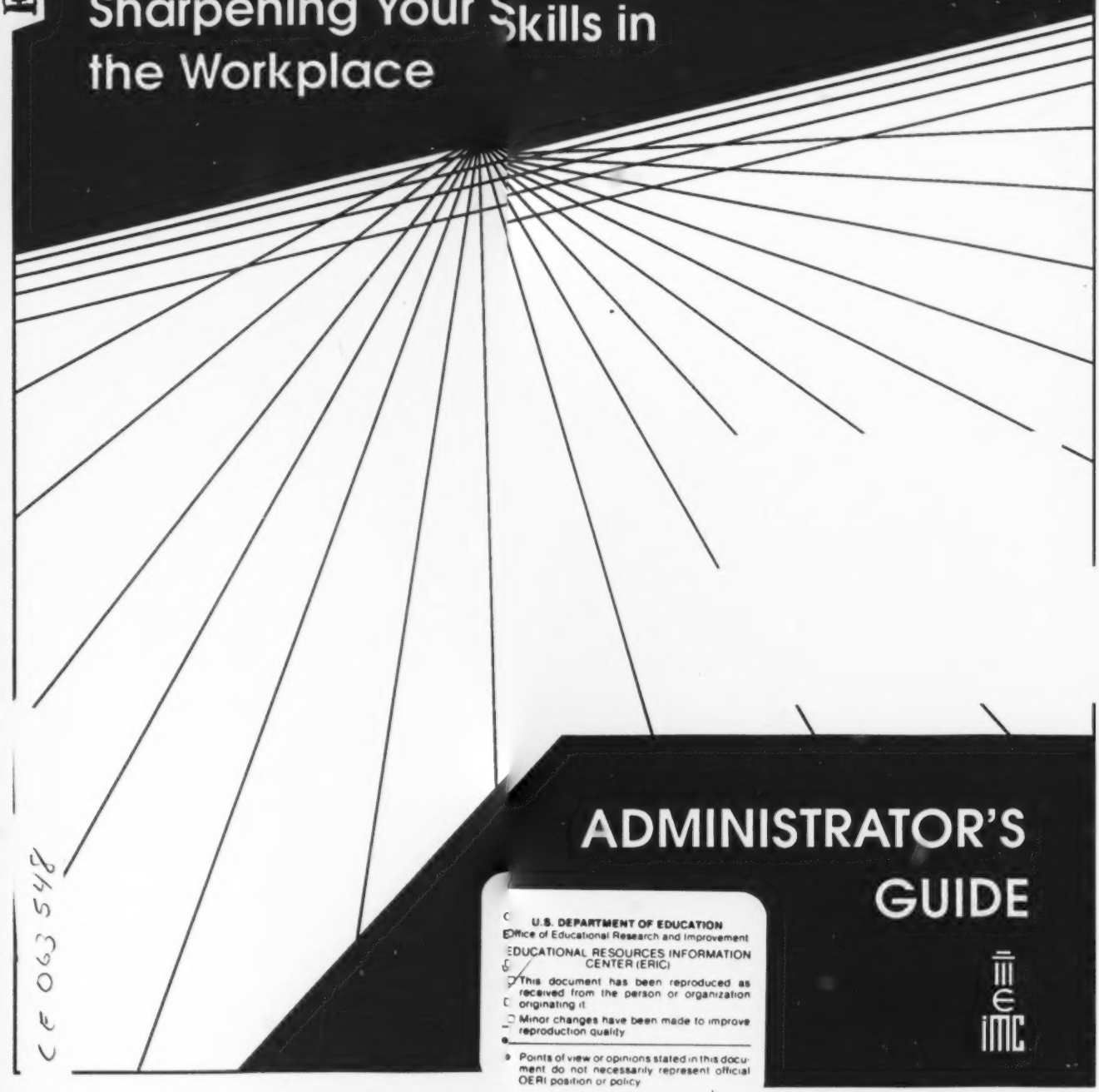
THE Competitive Edge

Sharpening Your Skills in the Workplace



ADMINISTRATOR'S GUIDE

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The Competitive Edge: Sharpening Your Skills in the Workplace

ADMINISTRATOR'S GUIDE

By

Elaine Shelton

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The Competitive Edge: Sharpening Your Skills in the Workplace is the final product of a 21-month National Workplace Education grant from the U.S. Department of Education to the Extension Instruction and Materials Center at The University of Texas at Austin, in cooperation with its business partner, the Austin/Travis County Private Industry Council. The project, titled *Skills Building for Tomorrow*, had two main objectives. The first was to develop instructional materials that enhance skills in a workplace context. The second objective was to field-test these materials while providing a yearlong instructional program at three companies in Austin: Hart Graphics, IBM, and Texas Instruments. During the 21 months of this project, we worked with the following individuals whom we gratefully acknowledge for their valuable contributions to the success of this endeavor.

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Introduction

This Administrator's Guide is intended to be used as a companion to *The Competitive Edge: Sharpening Your Skills in the Workplace* curricular materials—the Student Editions and the Instructor's Guides. However, the Administrator's Guide can also stand alone and be used as a reference for individuals just starting to implement or beginning to plan a workplace skills enhancement program in their organization.

Much of the information in this guide came from experiences gained while implementing a National Workplace Literacy grant funded by the U.S. Department of Education from May 1, 1991, through January 31, 1993. The grant was awarded to the Extension Instruction and Materials Center at The University of Texas at Austin to work with its partner, the Austin/Travis County Private Industry Council, to provide a workplace skills enhancement program at three companies in Austin—IBM, Texas Instruments (TI), and Hart Graphics, a large printing company.

The populations served were production line employees in TI's Printed Wiring Board (PWB) Department, in IBM's Electronic Card Assembly and Test (ECAT) Plant, and in Hart's Bindery.

In most regards, the steps outlined in this book were those followed. What you have in this Administrator's Guide is a detailed explanation of what we did or what we *wish* we had done! Thus, you have the benefit of our experience, often gained at no little expense of time, money, or mental anguish. If you so choose, yours can be the benefit of not *having* to reinvent the wheel from scratch. That we did construct a wheel from scratch is largely because our federal mandate was to develop new instructional materials and implement a *demonstration* project that would shed light on what skills enhancement products and processes are most effective in a workplace setting.

With that background on **how**, **why**, and **where** we became involved in workplace education, we will now proceed to detail **what** we did and **when** we did it. The following is a detailed step-by-step description of how to plan and carry out a workplace skills enhancement program.

Obtain answers to important questions that should be addressed before beginning to implement a workplace skills enhancement program.

In the initial meetings with the company training director, personnel director, and/or human resource development staff representative (the persons in the companies under whose auspices a workplace skills enhancement program generally falls), it is helpful to begin to answer the following questions:

(a) Has your company conducted any assessments to determine at what levels the workers in the targeted departments read, write, and/or compute?

Often the "skills assessment" is a very informal one. The first indication many company training directors or human resource development (HRD) personnel get that employees' skill levels are not as high as they need to be is when the employees are unable to benefit from training opportunities the company provides because their basic skills do not allow them to comprehend at the level necessary. This is important information for the education provider to have, but a more formal assessment of skills is called for.

If the answer is **"no,"** that a formal assessment has not yet been conducted, an assessment instrument needs to be selected or developed before actual skills enhancement can begin because without accurate assessment tools, one is not sure of the need and the degree of the need of the target population.

If the answer is **"yes,"** that a formal assessment has been conducted, one needs to make a decision about the appropriateness of the measure used, how much time has passed since a group of employees took it, and the turnover rate of that department. If it is determined that the assessment that was previously given was appropriate for the use for which it was intended and was administered in a time frame that is sufficiently current relative to the turnover rate in that particular department of the company so that its results could be deemed representative of the current skill levels of the current employees, further initial assessment may not be necessary.

Simply conducting a skills assessment among workers is not sufficient, however. The assessment should tie in with how the skills are actually used in the workplace, either on current or anticipated jobs or situations within the company.

An assessment of skills should be within the functional context of how the employees use the skills on the job or in other aspects of their lives. Persons may read, write, and/or compute on one level given material with which they are not familiar or in which they are not interested, and on a much higher level when assessed using items and content with which they are familiar or in

which they are interested. Thus, a fu
is far more realistic and predictive th
imbedded in reality.

***(b) How much of your company's
being a second language for yo***

If you have not given much thoug
helpful to ask yourself and the sup
English seems to interfere with any of
to more mistakes, (2) requiring clos
flexibility and room for advancement,
(perhaps informally through the help
low skill level may be relatively dif
assessment because of the often ela
employed by many workers.

The answer to this question will ha
you conduct, the type of instruction
needed. It generally is not effective to
English is their second language with
of basic skills. Combining these two
back and/or frustrates the native s
personalized attention needed by the n

(c) Is your company willing/able to

The release time for each partici
expenses of a workplace skills enhan
companies decide only to offer educati
provide one hour of release time if th
instruction on his/her own time. Som
completely on released time. There ar
these policies.

Advantages to offering programs exclusi

All three companies with which we
our skills enhancement program totally
11 months per employee). This off
provision of learning and potential car
free of charge to the employee, thus in
would want/be able to take advantage
that the company is willing to ma

nctional context approach to assessment
han using assessment items that are not

***skills problem may be due to English
ur employees?***

ht to this question up to now, it might be
ervisors whether a lack of facility with
their employees' work by (1) contributing
er supervision, (3) resulting in less job
and (4) requiring the use of interpreters
of co-workers). This last manifestation of
ficult to detect without a formal skills
borate and effective coping mechanisms

ve implications for the type of assessment
you provide, and the number of classes
mix lower functioning persons for whom
English-speaking adults with lower levels
groups with different needs often holds
speakers while not providing the more
on-English speakers.

offer classes on company time?

pating employee is one of the largest
cement program. For this reason some
onal programs off company time. Others
e employee receives the second hour of
e companies are able to offer instruction
e advantages and disadvantages to all of

ively on company time:

worked during our grant period provided
on company time (4 hours per week for
ers obvious advantages including (1)
eer advancement opportunities that are
creasing the probability that employees
of the program, and (2) demonstration
ke a significant time and financial

commitment for the betterment of its employees. The significant financial commitment evidenced by companies that choose to offer a skills enhancement program totally on company time sends the loud and clear message that this company cares about its employees and is willing and able to support their development. This often leads to greater loyalty to the company instead of, as is sometimes feared, more of a chance that the employee, once his/her skills are improved, will leave the company. This is especially true for companies that offer opportunities for upward mobility with the attainment of greater proficiency levels.

Other advantages are (3) assurance that the company is willing and able to make a commitment to keeping and investing in the employees in the program which, in this period of uncertainty in our economy when many companies are cutting back on production and staff, can be a significant statement, albeit often unspoken, and (4) elimination of the problems associated with transportation, child care, and fatigue which are often considerations of programs that are conducted off company time.

Advantages to offering programs partly or wholly on employee time:

Although the advantages of offering an education program on company time probably outweigh the advantages of programs that are either offered off the clock or partly on and partly off, there are some obvious advantages of the latter two options as well as some which may not be as apparent at first. Advantages of educational programs offered on the employee's own time include (1) eliminating or greatly decreasing the time off work. This is a highly significant consideration since the lost work time is either reflected in reduced productivity or overtime work by the student employee or other workers making up for the student employees' time off task.

While, by definition, each hour in class is an hour not working in the conventional sense, this should have only a short-term negative impact on productivity or, at best, the increased burden of accommodating schedules to compensate for time spent in instruction. It is the premise upon which skills enhancement programs are built and offered that the long-term gain to the company will far outweigh the short-term sacrifices. An increase in skill levels should ultimately be reflected in greater productivity, and/or fewer accidents, lower turnover, less absenteeism, etc., all of which impact the bottom line.

(2) Linked inextricably with the reduced time off work, if programs are offered wholly or partly on employee time, is the reduced financial outlay for the company. One of the reasons the three companies with which we worked were able to offer the skills program on company time is that the teachers' time was paid by our federal grant, greatly reducing the total cost of the program to the companies.

(3) A third, less apparent, factor that can conceivably be an advantage of the employee defraying at least a portion of the time/expense inherent in a skills enhancement program is the oft-noted phenomenon of people tending to place a higher value on something if they have paid at least a portion of it themselves. Some people do not perceive a "free" program to be as valuable as one for which they have had to pay something. Thus, an employee's personal investment may not be as great as if he/she had incurred some of the actual expense.

If part or all of the skills program is to be offered on company time, there are two additional questions that should be addressed. **First,** if a large portion of the workers in your company would benefit from instruction (based on assessment results), how many could be spared from work for instruction at any one time? The answer to this question has important implications for the size and number of classes that should be offered.

Second, if a large portion of the company's workers could benefit from instruction but not all could be served at once, which group(s) would you most like/need to see served first? Those who need the most instruction? the least? Those in the intermediate skills range? This question will be addressed in greater detail in STEP 2.

(d) Do you envision the educational program being made voluntary or mandatory?

Again, there are two sides to this issue, both advantages and disadvantages of either choice. Two of our companies decided to make the skills program mandatory while the third opted to have it voluntary.

The advantages of a voluntary program, the premise upon which we based our grant application, was that the workers who volunteer for an education program could be expected to be more motivated to attend and learn and less resistant than employees who were not given a choice. Obviously, if a program is made mandatory, it must be offered on company time.

A major disadvantage of a voluntary program, and the reason why two of our three companies decided to make the program mandatory, is the risk that the employees who are most in need of a skills enhancement program may be the least likely to volunteer. This is not a groundless fear.

At the company that chose to offer the program on a voluntary basis, assessment *and* instruction were voluntary. This created the additional disadvantage of not knowing how many participants to expect in class until they showed up the first day. This problem could be eliminated, of course, by simply establishing the policy that whoever volunteered for assessment was also concurrently volunteering for instruction if their assessment scores indicated that they could benefit from it.

(e) Is your company union or nonunion?

If your company is union, are union representatives aware of your desire to begin an instructional program for the employees? If not, this is an important first step to take to gain their support. Only one of our companies was union, but the blessings of both the local and parent union representatives were sought and received before any aspect of the program began. The program was presented to and accepted by the union as the employment benefit it was.

If your company is unionized, it is generally a good idea to include a union representative on your advisory committee. The establishment and suggested makeup of an advisory committee will be discussed in STEP 3.

(f) How do you plan to staff your workplace education program?

As with most facets of a workplace education program, there are many possible variations that should be considered. Some larger companies have a department dedicated to education and training. If this is the case in your organization, the decision could be made to conduct classes in-house using existing staff. If, however, your company does not have an education and training department or if, as is the case in so many companies that have a training department, this department is staffed with persons who offer *management* training, you may want to consider contracting this more basic education out to an education service provider in the community that is already set up to provide this level of service. In the case of our grant, our program was conducted under the auspices of a university (The University of Texas at Austin). Community colleges also often have staff trained to provide this type of education program. There are also numerous private education providers in many communities whom you may want to contact to discuss whether the services they offer are of suitable content, at appropriate levels, and at fees that your company can afford.

(g) What's in a name?

The name you select for your company's skills enhancement program may not seem as important an issue as some of the other preliminary planning questions discussed in this guide. However, the answer to the question of "what's in a name?" can be "plenty!" Even though educators may speak of "workplace *literacy* programs" among themselves, considerable research has shown that it is best to avoid using the "L word" (literacy) in naming your program as it will come to be known by your students.

Students often feel that if they are found to need a "literacy" program, they must then be *illiterate*! This perception does nothing to encourage them to

volunteer for or attend such an educational program. It can also easily damage self-esteem, which is often fragile in persons who have lower skills.

No matter how careful you are in naming a skills enhancement program or how many times you and the providers stress the fact that the program is not for "dummies," some employees will find it difficult to accept. The need to provide such reassurances throughout the length of the program will probably resurface time and again. The program should be advertised and consistently handled as a positive opportunity and the employment benefit it truly is.

It should be noted here, while we are still addressing the question, "what's in a name?", that the workplace skills enhancement program we offered was named the Skills Building for Tomorrow (SBT) Program. However, because that name did not impart much information regarding the content of the program and its attendant materials, the instructional material developed as a product from this program was named *The Competitive Edge: Sharpening Your Skills in the Workplace.*

Identify which division(s) of a company could most benefit from a workplace skills enhancement program

Because, as acknowledged earlier, a workplace education program calls for a significant investment of time and money by the participating company, not every employee or department can be served at once. For this reason, one of the first decisions made by the persons responsible for initiating a skills program in a company is **where to begin**. To answer this question, it will be helpful to consider the following:

Current skill levels of the workers: If a prior assessment has been done, as discussed in (a) of STEP 1, this information could be used to determine the most immediate or critical need. If a prior assessment has not been done, the determination of where to begin could be made based on knowledge of the following:

- **Area(s) of most severe problems:** "Severe problems" could be defined as low productivity, high scrap loss, accidents, frequent breakdowns and emergencies, turnover, or any other factor(s) that the company identifies as critical to its productivity, economy, and overall successful functioning as a business.

- **Importance of jobs to company objectives:** A company may base its decision about where to begin a skills program by answering this question: In which area(s) of the company could low skills have the most negative effect on the product or service our company offers? Where could less than adequate skills do the most damage and cause the most serious problems to the overall objectives of the company?

- **Recent or anticipated changes that require training/retraining:** Ideally, workplace education program planners should be forward-thinking enough to plan to teach not only skills needed for current jobs but also skills needed to perform future jobs and to become more promotable.

Have there been any recent changes in the way your company does business, any new machines that employees need to operate, any anticipated changes in equipment, operations, or procedures, such as Total Quality Management (TQM), that have necessitated or will necessitate new training?

Are any jobs being eliminated or expanded by reorganization or new technology that necessitate retraining any employees? If so, these employees might be the most logical ones with whom to begin implementing your workplace skills program.

Once company personnel have decided which department could benefit most from a workplace education program, scheduled a comprehensive tour. A tour of the entire company is useful, but particular time and attention should be given to the department chosen to participate in the program. The purpose of the tour is to get a general overview of what the employees do, how they do it, what tools and equipment they use, and what the work environment is like. This is also an excellent time to take note of the types of notices on company bulletin boards, safety signs, and general information that employees are expected to read in their workplace. Make note of such materials to later request samples. These materials can then be incorporated into instruction, teaching workers to read, write, and compute using some of the materials, forms, and formats that they actually use in their jobs.

Establish an advisor[y committee.]

We highly recommend that an
the planning phase of the work
formal structure because if left to
of involvement with the program,
that you will not seek out each pa
details, as is ideal to help ensure t
opinions are being sought and res
to "buy into" something if the
development. Therefore, to the e
constraints and commitments of t
include at least the following peop
your workplace education progra

- At least one representativ
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- One representative of the pa
- One representative of the s
(their perspective is ext
perspective of the participat
- One representative of the u
- At least one representativ
outside provider. Ideall
program, as well as all th
your company, should be m

We also highly recommend es
advisory committee. This helps
schedule conflicting activities du
routine which guards against t
particularly busy day and then fa
program (roughly the first four m
month. As the program settled
every other month. During the
the business liaison need to me
weekly basis between advisory co

[a] advisory committee be established early in
[work]place education program. We encourage a
good intentions to include people at all levels
demands of the work world almost guarantee
[par]ticipant's views about many of the program's
that as many people as possible feel that their
pected. People have a much greater tendency
[to] feel that they have had a hand in its
extent possible and practical, given the time
he staff of your company, make every effort to
[peo]ple on your company's advisory committee for
n:

[ev]e of management, whether from personnel,
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articipants in the education program
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ting student worker)
nion, if your company is unionized
e from the education service provider, if an
y, the person coordinating the education
e instructors involved in teaching classes at
embers of the advisory committee.

[Es]tablishing a set time at which to meet as an
ensure that members will not inadvertently
[dur]ing that time and will also help establish a
the temptation to put the meeting off on a
[fai]l to reset it. During the start-up phase of our
months), we found it advisable to meet every
into a pattern, we found it adequate to meet
start-up phase, the program coordinator and
[mu]eet or communicate frequently, at least on a
[co]mmittee meetings.

Meet with the immediate supervisors of the employees within the designated division.

Once the area(s) within the company where the workplace skills program will be implemented is (are) selected, provide a thorough briefing for the supervisors within that department so that they will understand what will be going on within their departments and why and to enlist their aid. The purpose of the meeting should be to

a. identify the various types of jobs that are carried out by employees within that division;
b. identify the most critical aspects of each different type of job;
c. identify three workers (ideally representing all shifts) for each type of job for purposes of the task analyses to be discussed in detail in STEP 6;
d. identify what opportunities for promotion are available to entry-level workers and what abilities/qualities workers need to be promoted;
e. identify deficits in current skill levels that may be appropriately addressed by the program; and
f. explain in detail what such a program can and cannot be expected to accomplish.

It is important to bring the supervisors in at the beginning of program planning for the reasons already enumerated, as well as a less obvious but just as critical reason. Since the supervisors are the people who will be dealing most directly with the employees who will be in instruction and, thus, off work for a certain period of time each week, their understanding of and support for the program is vital. Without their support, the program participants will be the target of negative comments that range all the way from being ridiculed for needing the classes in the first place to being resented and hassled about the time away from work. At the worst extreme, the student employees will be kept from attending class when workloads become too much of a burden without a full complement of workers.

Experience has shown beyond a shadow of a doubt that support for the program is just as necessary at the supervisory level as it is at the top. Management may put their full support behind a skills program, but without the support of the immediate supervisors of the workers in classes, the program, at best, begins with two strikes against it. In fact, the importance of involving all levels of the company—top management, training personnel, production supervisors, participants, and, when applicable, union representatives—at each major phase of a workplace education program cannot be stressed enough.

Schedule the job task analyses.

Since, on any given day or in any given week, some workers will invariably be out sick, on vacation, or unavailable to attend the meeting, make sure before scheduling the task analyses that all supervisors of all employees who would be affected by the task analyses have been briefed on the skills program. "All employees affected" translates to all the employees in the department because even if an individual employee is not one who is being observed and interviewed, he/she will see co-workers being observed and may wonder why and even feel threatened by the unknown. This feeling of concern and insecurity was very much a reality for employees at two of our companies where the economy had forced some reorganizations. To see strangers milling around, observing, interviewing, and taking notes, can be understandably unnerving to employees who, unless they are informed otherwise (and sometimes even with assurances to the contrary), may feel that their jobs are in jeopardy.

This reality points out the desirability, if not real necessity, of asking the supervisors or management to apprise all workers in the affected department about the program. Assurances must be given with all truthfulness that the skills program will not be used as a means by which promotion or retention decisions will be made. The critically important issue of **strict confidentiality** will be addressed again in later sections of this guide. In addition to assuring the employees that the program will not be used in any punitive ways, present the program as what it truly is—an employee benefit. Also assure employees that the sole purpose of the observations is to get an idea of what jobs are being done in order to incorporate relevant content into instruction.

After all supervisors and affected workers have been oriented regarding the skills program, schedule a 30-minute meeting with the employee's immediate supervisor prior to the task analysis. Also, schedule a one-hour observation of three employees per job type (one hour per employee).

The purpose of this interview with the immediate supervisor of the employee to be observed is to gain background information so as to maximize the time spent observing and interviewing the worker. The supervisor should be asked what the worker's job is, which parts of that job are the most critical (this serves to verify the information which should have been collected in STEP 3). The supervisor should also be asked what types of materials the worker typically needs to read, write, and compute on the job, what machines or tools he or she typically uses, and any other questions that might give the person conducting the task analysis a clearer picture of the job duties and responsibilities of a worker in that particular position.

This is also a good time to ask the supervisor to supply copies of the materials the workers use on the job so you will begin to see what skills are needed, and at what levels.

Conduct job task analyses.

In this activity, the person(s) who will be conducting the classes actually observes the employees carrying out the critical tasks identified in the meeting with the supervisors described in STEP 4.

If, during the second of the three observations of employees performing the same type of job, workers are doing much the same tasks in much the same way, the person conducting the task analyses may decide that two observations per job category are sufficient. If, however, the observer identifies different tasks being accomplished or different methodologies being used to do the same tasks, the observation of three workers is beneficial. Since this information is not known until the task analyses are under way, it is generally best to schedule three separate analyses of three different workers among different shifts doing the same tasks which the supervisors have identified as critical to that job.

Unless it would pose a hazard, it is helpful, and often necessary, to ask clarifying questions of the employees as they work. This should be cleared with the supervisors prior to the task analysis to ensure that the employees' safety would not be jeopardized by being somewhat distracted by questions.

A thorough summary is written of exactly what tasks the worker is doing, how he/she is doing them, and what tools or other materials are involved in the activity. The observer later requests copies of all materials he/she observes the worker using if these have not been supplied previously. These can be anything from work orders, to memos from the previous shift, to charts and graphs. Only nonsecure, unclassified documents are collected. These will be used later in activities and as examples within the instructional materials with which participants will work.

As mentioned earlier, if possible, begin to collect these materials in advance of conducting the observations so that the observer is familiar with the material if he/she sees it being used on the job.

The instructor spends approximately an hour observing each worker. This time frame can vary considerably, depending upon how complicated and/or time-consuming the task is, how verbal a particular employee is, how many questions the observer asks, etc. After the observer feels that he/she has gained a clear enough picture of the type of tasks a worker performs in a particular job, he/she immediately needs to rewrite the notes before they "get cold" and less intelligible. It is an art to take meaningful notes while an employee is engaged in an activity which may be progressing quickly and about which he/she may be talking.

The observation of employees on the job should be done periodically throughout the program. The initial task analysis should not be the only time such observation occurs. Watching the employees in action makes even more sense after the teacher has begun to establish relationships during instruction. Observation then is even more useful in making the content of the classes more immediately meaningful, relevant, and useful to the learners.

Identify which enabling skills are correlated with each of the parts of the tasks observed in STEP 6.

Once the notes taken during the task analysis are fleshed out, the observer next analyzes the information from two perspectives. **First,** he/she correlates the tasks to the enabling *skills* (e.g., reading for detail, reading charts, adding decimals, dividing fractions, decision making, etc.) needed to satisfactorily accomplish the task. **Second,** the instructor analyzes the skill *levels* required to deal effectively with the materials used and samples gathered.

It is important to note here that, upon close examination of the materials the employees are expected to use on the job, the problem often lies as much with the materials as with the employees' skill level. Many manuals, guidelines, blueprints, and procedures are written at an extremely high level. While we are by no means advocating "dummying down" the readability of materials to match employees' low skill levels, we *are* suggesting that at the same time employee skills are being enhanced, the readability of some company materials might be reduced in difficulty or at least revised to be made clearer.

Develop an assessment instrument based on the information gained from the job task analyses to measure workers' skills and needs.

Many things should be taken into consideration when choosing or developing an assessment instrument to use to determine initial placement into a workplace education program.

Selection vs. Development Considerations

One of the first decisions to make is whether to use an already developed instrument or whether to develop your own. The advantages of using an *already developed instrument* are (1) it saves much time and money because developing your own is time-consuming and laborious, and (2) if you use an instrument that has been developed for and validated on a sample similar to the one to whom you will be administering it, the concerns over validity will have been worked out. The advantages of *developing one's own placement indicator* are (1) you will be more sure that the items directly relate to what you need and want to measure, particularly if you have attempted to use the skills and contexts that you have observed being used and needed on the job during the task analyses, and (2) there are some legal questions regarding using tests for workers that do not directly apply to what they need and use on the job. This is true if the assessments will be used to make any hiring, firing, or promotion decisions. Even if the company has the best intentions not to use the scores for such purposes, there always remains a danger of what could be an unconscious use of such data to make employment decisions. For this reason, it is best to tie any assessment instrument as closely as possible to the actual skills/uses the workers need on their jobs.

To try to ensure such a correlation of what we would test with what workers were actually doing, we decided to develop our own assessment instrument. To also guard against any perception of using the assessment scores for anything other than their stated purpose—to match potential students with the content of our program as best we could—we also made it very clear from the first that we would not release any individual or small group scores to the companies. The students themselves were given as much feedback as they wanted regarding their own scores.

Content Considerations

Whether you decide to use an already developed instrument or develop one of your own, the next decision is which skills to measure. Most already developed tests are made up of several parts—often reading, language, and

math. During your task analyses, did you observe workers using all three of these skills? Did you observe skills other than those three being used? The answers to these questions should inform your decision about which skills to measure for initial placement, if you use an already developed instrument, or upon which skills to build your customized instrument. In our case, we developed a placement instrument that included *reading*, *writing*, and *math* items since these were the skills being used/needed most often in the work that we observed being done. The *reading* items should tap the reading subskills (i.e., general comprehension, reading for detail, skimming, and scanning, etc.) that you observed employees using/needing most often. The same is true for the math and writing items. For our writing placement, we asked workers to write a paragraph explaining what they felt would help new or inexperienced workers perform their jobs well. This item served three distinct purposes. **First,** it provided a writing sample with which to assess a worker's writing skills. **Second,** it provided additional information about what skills might be most useful on the job. This information was useful later as we developed the instructional materials. **Third,** but less obvious, it let the workers know that we valued and sought their input into the program.

Time Considerations

The next decision, particularly if you are developing your own placement instrument, is how long to make it. You want to make it long enough to expect it to reasonably measure the skills being addressed. On the other hand, you want to keep it as short as possible to maintain the workers' interest and attention and not have them off work any longer than absolutely necessary. This last point is as much an interest of the employees' supervisors as it is for the persons actually taking the test since time away from work is lost productivity. However, the truth of the saying, "Pay now or pay later," is exemplified here. The time spent in assessing and providing instruction in a workplace education program may spell the difference between happy, more productive workers and less productive, less involved workers who, in the long run, are more costly to a company.

Field-Testing Considerations

If you are using an already developed placement instrument, the initial developers should have already taken care of the need to field-test, analyze, and revise the instrument. If you are developing a new instrument, this will need to be done. One tip that may not be as obvious as it should be is the advisability of soliciting input from several persons as you develop your answer keys to the instrument. It is the rare person who is able to see all the possible correct answers to a question or solutions to a problem. The development of answer keys is a prime example of two (or more) heads being better than one!

Administer the asses within the identified

sment instrument to all workers division of a company.

As with virtually all components s of a workplace education program, there are various options, with their atter ndant advantages and disadvantages, that need to be weighed with regard to administering the assessment in order to identify workers who could benefit m ost from a company's workplace education program. One of these decision is is whether to make the assessment *mandatory* or *voluntary* for a par ticular department or plant. This is an important question that ideally sh ould be answered in the initial program planning stages. Because of this, t his question was also addressed earlier in this guide in the section that focuse ed on several questions to answer before a workplace education program beg ins. Because of the importance of the question and because the answer does not always come easy to companies embarking on such a program, the relative advantages and disadvantages will be restated in this section.

Mandatory Assessment—Advanta ges

1. Companies often express the con cern that those persons who might need a workplace skills enhancement program most may be the least likely to "volunteer" to be assessed. If the assessment is made mandatory for everyone in a particular departme ent, this concern is taken care of.
2. The stigma of admitting to needin g help is eliminated.

Voluntary Assessment—Advantag es

1. At least at first, until the benefits and relevancy of the program become clear to the students, they can be expe cted to come into the program with a more open attitude if it has been the ir decision. They often are more highly motivated to do their best on the assessment.
2. Employees may also feel more en npowered and in control of their destiny if the decision about whether to vol unteer for a workplace education program is theirs to make.
3. Employees are less likely to feel fe earful that their job is on the line if they do poorly. All the (re)assurances in the world often will not completely eliminate a deep-seated fear that somehow their scores/performance on the assessment will be made known to their supervisor or management of their company and will be used against them.

This last point again brings up t he all-important topic of **confidentiality**. This, like the decision about whethe r to make a workplace education program

voluntary or mandatory, has come up before in this guide. It is important enough and has the potential to affect the whole tone of the instructional program to justify resurfacing the issue at this point.

Companies have the right to have access to the scores and information on progress of individual students in a workplace education program if the program is conducted on company time *unless* the agreement of confidentiality is reached up front. We were pleased with our decision to not release information on individual or small group scores or progress to management of any of our three companies.

Confidentiality is probably an even greater factor for workers deciding whether or not to volunteer for assessment in companies offering a voluntary education program. If scores/progress are shared with management, the workers might be far less willing to take the chance of exposing any weaknesses if they do not have to. This decision was felt to be even more critical to gaining the confidence of our students when the economy forced some scaling back of the workforce.

In our case, having been funded by the U.S. Department of Education, the confidentiality issue was also especially critical because one of the last things the federal government needed was a lawsuit brought against it for having one of its programs accused of being responsible for or even contributing to a worker being fired, laid off, or not promoted.

Identify which workers could benefit most from participation in the workplace skills enhancement program

Because of the confidentiality issue discussed above, the instructor(s) in the workplace education program should administer any assessments rather than an employee of the company unless, of course, the instructors are part of the company staff.

Data Collection

1. Record the scores on each section of the assessment for each individual.
2. Determine acceptable minimum scores that indicate no need for instruction.

Data Analysis

1. Analyze data to determine which workers could most benefit from instruction.
2. Determine which workers' skill levels are adequate for their current jobs or for those positions that may come up in their company in the foreseeable future.
3. Set selection criteria for participants in the program. Do not select program participants whose assessment scores are either so high or so low that they could not be reasonably expected to benefit from the level of instruction your program is prepared to offer. Refer those employees with needs that cannot be met by your program to other programs in their company or community.
4. Notify all participants whether they are in the workplace skills enhancement program or not. In order to maintain confidentiality, we handled the notification process ourselves rather than have the companies know which workers were not in the instructional program because their skill levels were too high or too low. Some workers' skill levels were judged to be too low to benefit significantly from our program because we did not develop the materials to focus on low-level skills. Our instructional materials are designed more for an intermediate-level learner.

Schedule classes.

This is often another challenging area of a workplace education program. Several variables interact to limit the ease with which scheduling is carried out. Some of these variables will be discussed below.

Shift Considerations

If your company runs three shifts, as two of ours did, you need to decide if you want to offer the workplace education program to all three shifts, assuming, of course, that there are workers on all three shifts who have indicated by their assessment scores that they could benefit from the program. Both of our companies who ran three shifts wanted to make the program available to every shift. All too often workers on the third shift feel left out of many opportunities that their company offers because of the unconventional times during which they work. We feel that the decision to offer the program to all shifts is the proper one. It does, however, have implications for hiring instructors because, unless an instructor is willing to work a split schedule (sometimes possible on a very short-term basis but not physically or mentally viable on a long-term schedule), such a program mandates at least two instructors. We found it desirable to hire one person whose internal clock made it possible for her to become our late-night instructor.

Production Considerations

Supervisors often impose constraints upon times off work. If a company typically has times when workloads ebb and peak, they obviously will not be as amenable to having their workers in class during the latter periods as they would the former.

Another variable that sometimes may have to be considered is how strong a department is during a particular part of the day. In some cases, we were constrained from having as many students on one shift as needed instruction because some of their co-workers had taken early retirement. Since the workers eligible for early retirement are often the most experienced, their absence leaves the rest of the department less able to function at peak efficiency without a full complement of workers. This reduces the number of students in any one class during that shift.

Optimal Class Size Considerations

In order to keep the *class size* to a manageable number of students while trying to keep the *number of classes* to a minimum for financial considerations,

we limited our classes to fifteen students. In most cases, the actual number of students per class was fewer than fifteen, but this was dictated by shift (there were fewer people working third shift) and by numbers of people who could be off work at one time (dictated by typical workload of a department).

Time Considerations

The advantages and disadvantages of providing instruction wholly or partly on company time were discussed under STEP 1. However, three other considerations need to be taken into account when actually scheduling classes.

Program length: *The Competitive Edge* is made up of two student books, one for math and one for communications. The math book begins with several lessons that offer a refresher on more basic math operations such as adding, subtracting, multiplying, and dividing decimals and fractions. The second set of math lessons deals with the more advanced operations of measuring, figuring percentages and ratios, reading charts and graphs, and an introduction to algebra. The communications book focuses on three areas: accessing information through reading, oral and written communication, and the reasoning and interpersonal skills of problem solving, decision making, and team building.

Companies may decide to offer one long program with short intermittent breaks between sections such as the 11-month program of classes we conducted under our federal grant. Some companies may want to break the program into two components, one for each of the content areas. A third configuration companies may prefer is to divide the five sections into separate programs.

Hours per week: We scheduled two class sessions a week. Since each session was for 2 hours, each employee participated in classes a total of 4 hours per week. We found this to be a good accommodation between the teachers wanting enough time to reasonably expect both significant learning to take place and retention of what was learned and the supervisors wanting the employees off work for the minimum time necessary to achieve our desired results instructionally.

Sequencing work and class time: All of our companies found it highly preferable to schedule classes either at the beginning or end of a shift in order not to break up the employee's work time. Because we felt that the students would be fresher if classes were held at the beginning of a shift, the project personnel's preference was to schedule the classes then. It greatly depends on the numbers of classes how close to an ideal schedule from everyone's perspective you are able to arrange. Scheduling classes is one of several areas where *flexibility is essential* for both companies and education providers.

We found that the 2-hour blocks of time per class session were close to ideal. Since it typically takes at least 5 or 10 minutes for individuals to settle

down to work at the beginning of a class and a 10- or 15-miniute break is generally given at the midpoint of the session, then real concerted instruction takes place for only 90 minutes under nearly ideal circumstances. To schedule a class for any shorter a period (than 2 hours) reduces the instructional time to too short a segment in which to accomplish much. Any longer than the 2-hour block would run the risk of being too long to expect good concentration for the entire period.

Site Considerations

Because we recommend that ideally classes be held during work hours or at least immediately before or after work, it is desirable to offer the classes on site. This avoids or reduces many potential problems such as parking, transportation, discomfort with locale, and other concerns that are often associated with an off-site location.

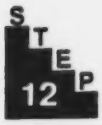
Provider Considerations

Some larger companies have their own education and training department. If this is the case in your company and if the staff of this department feels comfortable with teaching the content of a workplace skills enhancement program, you may want to consider providing such instruction using in-house staff. If, on the other hand, as with most companies, (1) yours does not have such resources in-house, or (2) those personnel are better suited to provide training and skills enhancement at the managerial level, or (3) the workload of in-house training personnel is too great to take on this additional responsibility, your best option will probably be to contract with an education provider in your community to conduct the program for your workers.

Budget Considerations

Related to provider considerations above, but broader, are budgetary expenses that should be planned for before classes start. The following expenses should be considered when planning to offer a workplace skills enhancement program:

- The full or partial release time of participants
- The salary or hourly wages of the instructors and coordinator
- The increased costs of the instructors' time if curriculum development is included in your skills enhancement program as opposed to straight instruction
- Space allocation for the classes
- Costs of duplicating materials, paper, pencils/pens, markers/chalk, and the use, if not the purchase, of a chalkboard and perhaps an overhead projector



Identify and/or develop instructional materials that apply the enabling skills to the tasks workers perform on their jobs and in other real-life situations (functional context).

Once the job task analyses are completed and the correlations are run to see which skills are called for in each task and at what level, you are ready to begin thinking about what the instructional materials that the workers most need should look like. As with most other phases of a workplace education program, there are several options to consider.

Option 1: Using already developed instructional materials

In our case, there were two reasons why we developed our own materials. The first was that, although we reviewed many different packages, we did not find any one that provided instruction in all of the areas that we wanted to address. The reason why we did not seek out and use sections from already existing materials was that our grant emphasized the development of new curricula. Therefore, the final product of the Skills Building for Tomorrow Program is a unique set of instructional materials that our four instructors/curriculum developers created.

All four persons holding these positions were hired in large measure on the basis of many years of teaching and curriculum development experience. They not only developed the materials for the workplace education project but also field-tested them in a yearlong program of classes at the three companies mentioned earlier. The relevance, clarity, and teacher-friendly quality of the materials were ensured by (1) hiring eminently qualified teachers/curriculum developers, (2) having all four field-test the materials in their classes, and (3) all four working closely together to critique what parts of each discrete lesson had worked best and less well when they were actually taught. In this way, the writers were not simply making educated guesses about what *should theoretically* work in a classroom setting. Those parts that worked less well during the initial field-test phase were revised based on the firsthand knowledge of the developers/instructors. Therefore, the instructional materials for which this Administrator's Guide serves as a companion publication were developed by highly competent instructors with a wealth of experience in curriculum development who, in turn, thoroughly field-tested the materials to ensure their clarity, appropriateness, and effectiveness, and then extensively revised and polished the materials into the final product that is now available to you as *The Competitive Edge: Sharpening Your Skills in the Workplace.*

Earlier, we used the term *enabling skills.* We used this term to try to make the distinction between **occupational skills** used on the job, like knowing

which of several tools to use t
enabling skills, like being able to
tool or being able to *calculate* the
solution containing several chem
are the tools that are most comm
writing, and arithmetic. How
sophisticated and the tasks expe
definition of basic enabling
developments in the world of wor
management of progressive com
not just include *reading, writing,*
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revealed that the workers in our
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broadened our definition of "com
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are moving away from the solita
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Management, we incorporated
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While problem solving, decisi
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take a farsighted approach to er
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The attempt to make the less
from the evidence collected over
demonstrates that learning is m
if it is perceived by learners to b
their everyday lives, whether o
real-life application of skills to t
is what is often referred to as a
not learned as ends in themselv
is greater facility in doing one's

o repair a certain piece of equipment, and
read an operating manual on how to use the
amount of a chemical needed when mixing a
icals in varying proportions. Enabling skills
only thought of as the basic skills of reading,
ever, as today's workplace becomes more
cted of workers become more complicated, our
skills must expand to stay current with
k and beyond. Therefore, many educators and
panies are now thinking of enabling skills to
and *mathematics* but also *speaking, listening,*
ng, and *team building.* Our task analyses
companies were indeed frequently being called
use all of these skills as they carried out their
riculum, we decided to incorporate the math
mmunications skills in a second book. We
munication skills" to include reading, oral and
solving, decision making, and team building.
rm of communication. Since many businesses
ry pursuit of discrete repetitive tasks to a team
ng, decision making, and Total Quality
much of our problem solving and decision
ng as a member of a team to bring increased

on making, and team building may not be part
es for some employees, the goal of a workplace
lly be broader than just teaching toward those
g at the moment. A well-planned workplace
ould also attempt to prepare workers for the
d and expect of its employees in the future. To
nployee development will not only provide more
now but also help ensure a well-qualified pool
company.

sons as relevant and realistic as possible stems
many years of research in adult education that
ade much easier, faster, and is retained longer
e something that they can apply immediately to
n the job or in other real-life situations. Such
he actual activities in which the skills are used
a "functional context" approach. The skills are
es but as the means to an end, whether the end
s job, calculating the deductions made in one's

paycheck with greater accuracy, helping children with their homework, or interacting more effectively with a co-worker.

Because these instructional materials were developed with a workplace context in mind, many of the examples used relate to situations frequently encountered in the world of work. Some of the examples, however, will be in the context of real-life situations outside the work setting. We have done this in an attempt to balance the curriculum to focus on the application of skills not solely in the functional context of the workplace but in other functional contexts as well, with the expectation borne out by research that when one is more functional in one facet of one's life, it has an impact on other areas as well.

Because the workers at the three companies used these enabling skills in different ways for different purposes, and because we focused on the enabling skills rather than on any one or two specific job families, we feel that *The Competitive Edge: Sharpening Your Skills in the Workplace* is appropriate to use with workers across many different job categories. Some instructors may find it desirable to substitute some job-specific activities and examples in the lessons for some that more directly relate to the jobs of particular workers whom they are teaching.

Option 2: Developing materials to meet needs that are not addressed by existing materials

The task is to compare what skills you want and need to teach in your company's workplace education program with what materials are available to see whether existing curricula can be optimally used or whether instructional materials need to be developed or revised. This is one of the questions that appeared at the beginning of this guide as one that needed to be answered as soon as possible in the development of the program. The question cannot be realistically answered, however, until an analysis of job tasks and their associated enabling skills and the skill levels of the employees are evaluated.

If the decision is reached that existing instructional materials are not sufficient, some issues should be recognized. First, the most widely promulgated "rule of thumb" is that it takes about five hours to develop one hour of instructional material. We found this to be a very conservative estimate at best. Factors that may add to the development time are the complexity of the content areas/concepts to be taught and the developers' level of expertise in the topic. Second, and largely because it is so time-consuming and labor-intensive, development can greatly increase the expense of offering a workplace education program.

Provide instruction.

Some of the decisions that need to be made regarding the provision of instruction have already been discussed under earlier steps. These include deciding how many shifts to serve (STEP 11), class size, scheduling, and location (STEP 11), content (STEP 12), and release time (STEP 1).

Additional considerations are (1) educational philosophy, (2) planning time, (3) supplementary materials and activities, and (4) recognition.

Educational Philosophy

One of the tenets in which we believe and on which we attempted to base our program as much as feasible is *competency-based education.* One of the principles of competency-based education is that learners need not sit through instruction in areas in which they can demonstrate competence and should be given credit for what they already know regardless of *how* they may have learned it—through formal academic instruction or training or through less conventional means, informal, and/or experiential learning.

Therefore, one of the issues that we addressed and encourage others embarking upon an adult education program to address is whether all learners need all components of a curriculum. This, we feel, can often best be ascertained through administering an initial placement indicator. Such an indicator was discussed earlier under STEPS 8, 9, and 10. Suffice to say here that, on the basis of formal diagnostic assessment or more informal assessment of needs and goals (both individual and company-specific), decisions can be made regarding for which learners a total instructional program (math, communications, and reasoning/interpersonal relations) would be beneficial and appropriate and for which learners only one or two of the three components are appropriate. Often the other training a company offers also factors into such decisions. For example, if a company is already offering courses or training programs that focus on effective teamwork or problem solving, it may not feel it necessary to offer that component of *The Competitive Edge* but choose to focus instead on the program's math and communications components.

On the basis of the initial assessment, decisions can be made regarding the appropriateness of the macro components of this instructional program. More refined (micro) assessment may be accomplished by using the two pretests for the math modules and/or by referring back to the task analyses discussed under STEPS 6 and 7. These can be used to help assess whether learners may or may not need instruction in all the lessons.

One important fact to bear in mind while deciding which portions of an entire instructional program are critical, which are less important, and which

are not needed by the learner is that, of necessity, assessment instruments, no matter how seemingly thorough and comprehensive, are only able to reasonably tap a small portion of the knowledge included in the curriculum. For this reason, if unsure about whether a skill, a lesson, etc., is needed, it is better to err on the conservative side by determining that the learner would probably benefit from exposure to the material. Even learners who "placed out" of parts of our math curriculum, by virtue of their pretest scores, were given the option to attend the class in that content area and feel that they benefited greatly from gaining much knowledge that was in the curricular material but was not necessarily tapped by the pretest.

Another consideration is whether the instruction should focus on skills needed for *current* jobs or for eligibility for future advancement as well.

Planning Time

Workplace skills enhancement programs and instructional programs of all types often fail to consider the fact that a class does not begin when the teacher sets foot in the classroom nor does it end when he or she exits the room. Every bit as much time and often much more is spent planning and preparing for a class, conceptualizing the content and how best to present it, researching the topic, and, after the class is "over," scoring or commenting on lessons, and reviewing them to see which parts worked, which did not, and considering how to revamp the latter parts, explain them in a different way or with different materials, examples, and/or activities.

Because we feel that this labor-intensive time before and after the actual class should not go unrecognized, with the expectation that the dedicated instructor will discount all that time as "going with the territory," we strongly encourage administrators to build this time into the time for which their instructor(s) are paid. The rule of thumb we use in our programs that do not have a development component (and thus use the five to one ratio of development time for hours teaching) is one to one. We count one hour of planning time for each class session (2-hour block of time). We feel that this more fairly recognizes the reality of instructors' activities and compensates them for these.

Supplementary Materials/Activities

Even in programs for which *The Competitive Edge* is highly appropriate to use as a core curriculum, it would be an atypical situation if additional materials were not felt to be desirable to introduce at some point in the program. For this reason, it is wise to include the cost of at least a modest amount of supplementary materials in the budget.

It is highly desirable, and thus strongly recommended, that as many of these supplementary materials as possible be taken from the order forms, memos, worksheets, specifications, company newsletters and bulletins, charts, and instruments that the workers are called upon to use in their actual jobs. If this advice is followed, the monies budgeted for supplementary materials might be more often used to duplicate these real-life materials than to order additional commercial curricula.

Recognition for Participation

Most people appreciate recognition for a job well done. We recommend building such a reward system into your workplace skills enhancement program. This recognition can take many forms, some of which will be briefly discussed.

Credit: Some companies require employees to complete a certain number of hours of training/instruction per year. The comprehensiveness of a program built around *The Competitive Edge* instructional materials is great enough to meet or exceed most companies' requirements for hours of training. In addition, some companies have decided to make all or some of *The Competitive Edge* a prerequisite for advancement to higher-level jobs within the company.

End-of-Program Celebrations: All three of our companies provided a celebration to mark participants' satisfactory completion of the program. In some cases, refreshments were served during the regularly scheduled class periods, thus substituting a party for the final class. In other cases, the celebration took the form of a class- or program-wide luncheon or dinner to which all participants, their instructors, and company liaisons were invited.

Certificates: Upon completion of the Skills Building for Tomorrow Program, each of the participants was awarded a personalized Certificate of Completion from The University of Texas at Austin that bore the signatures of the Director of the Extension Instruction and Materials Center, the Director of the Skills Building for Tomorrow Program, the participant's instructor, and a representative of the company's education and training department.

Before moving to the next step in this program (measuring whether employees' performance objectives have been met by the time a component ends), you should develop a contingency plan for how best to deal with any students who may not have mastered the requisite skills within the time allocated.

Measure whether company's and employee's performance objectives are (being) met.

a. Identify company and student goals before instruction begins.

Student goals are often shared in terms of being able to read or do math better in order to "do a better job," to feel less anxious about their job, or to get promoted to a better job. Personal goals are also often articulated. These often include the ability to "help their children with their homework."

Company goals often take the shape of expectations for "higher employee productivity." For companies that track production rates on an individual basis, this goal may not be *as* difficult, if not impossible, to trace back to one instructional program as for companies (the majority with which we have come into contact) that track productivity on the basis of teams, departments, or other large groups of workers. Today's companies seem to be moving more toward team or division productivity measures and away from individual measures. For most educational programs, where for practical reasons of cost and time off work, all workers on a team or in one department cannot be in the program, it is simply not possible to tie increased (or decreased) productivity to the program.

Another confounding variable is the fact that it generally takes several months, if not years, for the full impact and true measure of an intervention to be felt. To expect to see immediate gains from any intervention in a relatively short period of time (e.g., immediately or soon after a program ends) is not realistic. Yet that often is what is seen as necessary if a company is expected to reallocate scarce training funds in its budget to the continuation of an education or training program.

Another factor making direct linkage between worker performance and program impact very difficult to prove is the fact that, especially in larger companies that are able to offer multiple instructional/training opportunities, behavioral and/or attitudinal changes may well be the result of many different influences impinging upon the life of the worker and may not be correlated directly to any *one* intervention.

The case against productivity as a good yardstick of program effectiveness having been made, let us propose some alternative measures that our three companies found reasonable to collect on individual workers. All three collected data on (1) *attendance*: whether appreciable differences were evident in absenteeism and or tardiness before and after attending the program, (2) *turnover*: whether significant differences in turnover were evident between the "experimental" group (the workplace education program participants) and the "control" group (employees in the same department who did not participate in the program), and (3) *safety*: whether significant differences existed between

the experimental and control groups in terms of accidents (number, severity, repetitiveness, probable cause, etc.). Of the three variables listed above, the number of accidents was dramatically lower for the participants in our workplace education program. The case could be made that this significant difference could be attributed to the program participants being better able to comprehend what they read, thus being more able to avoid accidents. Another likely reason for the difference is that workers who have higher self-esteem have been determined to have fewer accidents. Self-esteem of the program participants has been documented to have increased dramatically in several instances. This, we believe, is because they feel better about themselves by virtue of their newfound or newly polished skills. It is probably also because they have been singled out for special treatment which, after getting over any initial fear that they were singled out for negative reasons, they have seen as positive and which has increased their self-esteem.

The identification of company and student goals before instruction begins sounds relatively simple but may take more time and thought than it would appear at first. Let us once again caution that you need to make sure a company's expectations are realistic and that chosen performance factors are those which realistically *can* be influenced by this education program.

b. If possible, obtain pre- and postperformance measures in areas of instruction and of most importance to companies and/or individual program participants.

Once these company and employee goals are identified, it is important to obtain preprogram performance measures. These measures should ideally be collected before any instruction begins in order to have a "clean" premeasure. The same measures should then be used immediately after (post) the end of the program in order to determine if there was movement between pre- and post-assessment that could be reasonably attributed to the educational program.

The Competitive Edge has a built-in feedback mechanism in the math component in the form of pre- and posttests. In addition to these formal assessments of progress, teachers are strongly encouraged to keep informal records of learner achievement. This is particularly important when measuring progress in the "softer" (more difficult to quantify) skills of problem solving, decision making, and team building. This evidence can take the form of anecdotal information that will be discussed below in section c.

Once more we feel it advisable to stress the importance of maintaining strict confidentiality of learner scores and progress throughout the program. Regardless of how benign an employer's reason may be for wanting to know initial scores or progress, if the learner feels that there is any room for doubt how the information might be used now or in the future, remember that "perception is reality." You run the risk of losing much of the openness and

spontaneity that is one of the hall
any milieu, workplace or otherwis
most assuredly mitigate against lea

lmarks of an effective education program in
e. It may even increase tension, which will
arners being at their receptive best.

c. Document anecdotal evidence

e of program impact.

For the softer skills mentioned
teachers and immediate supervisor
overhear that serves as evidence
program participants. It is also ex
evidence for the hard skills (readir
most meaningful and moving evider
significant impact on a worker's li
pre- and posttesting. Often it c
anecdotal reporting of events.
relatively insignificant at first but
repetition and substantiation as th
important to document these eve
instead of running the risk of forg
time intervene.

above, it is particularly important that the
rs document whatever they observe, hear, or
of change in **behavior** and/or **attitude** in
xtremely important to provide this anecdotal
ng, writing, and math) as well. Some of the
nce that an educational program has made a
ife cannot be fully captured through formal
can only be adequately captured through
Some of the events may seem small and
may take on increased meaning in light of
e change manifests itself in other ways. It is
nts in writing as soon as they take place
getting them later as additional events and

d. Collect program evaluation fr

om students at end of program.

It is important to ask for partic
This information can be extremely t
programs in the future. Among t
useful is (1) whether the learners ha
on their job and outside their job ar
they could not do before partici
instructional materials were inter
whether they would change anythin

cipant feedback at the end of the program.
useful when implementing additional similar
he information that we feel is particularly
ave used any of the information they learned
nd, if so, how, (2) what they can do now that
pating in the program, (3) whether the
resting and appropriate for them, and (4)
ng about the program and, if so, what.

NOTES: As comprehensive
Administrator's Guide, questions wi
plan and carry out your workplace
contains a list of resources for ad
workplace education.

The previous fourteen steps are
fashion as the step-by-step descript
order to more realistically depict th
when tasks should be accomplishe

e as we have attempted to make this
ll inevitably arise once you actually begin to
skills enhancement program. **Appendix A**
ditional information on various aspects of

e not necessarily carried out in as linear a
tion might lead one to believe. Therefore, in
e actual timelines for the various activities,
d in relation to each other, and how long it

may take to accomplish parts of the program as well as the whole, we refer the reader to **Appendix B.**

It is probably most appropriate at this point, when we have just introduced the timeline chart, to issue one last caution or eternal verity. No virtue is needed more in a workplace skills enhancement program than **flexibility!!** Regardless of what this Administrator's Guide says about when tasks should ideally be done or how long they can be expected to take, the only thing you should realistically expect is variation. If a workplace skills enhancement program should have a slogan, motto, or credo, it should be, **"The only constant is change!"** Never delude yourself into thinking that the success *or* failure of any workplace education program hinges on the accomplishment or avoidance of *any* one factor. Attempt to remain as flexible, empathetic, and unflappable as humanly possible. When such is simply not possible, at least take comfort (albeit small) that virtually everyone setting out to implement a workplace education program for the first time finds it to be an almost insurmountable task the first few months. The solace comes not just in the knowledge that misery does indeed have company but also that at the end of those first harrowing months things do smooth out. Thus, by the end of the program, when you do (and you will) see great strides in the professional and personal lives of the participants, one is able to finally look back and agree that the hard work was indeed worth it! We feel, too, that, over the course of the program, the management personnel of the company and the education providers will have learned every bit as much as, if not more than, the "students." Both participants and providers will undoubtedly agree that they have been profitably engaged in **lifelong learning.**

Appendix A

Resources

Appendix A

Resources for additional information on various aspects of workplace skills enhancement programs:

Business Council for Effective Literacy
1221 Avenue of the Americas–35th Floor
New York, NY 10020
(212) 512-2466

ERIC Clearinghouse on Adult, Career, and Vocational Education
1900 Kenny Road
Columbus, OH 43210-1090
Contact: Judy Wagner
1-(800) 848-4815

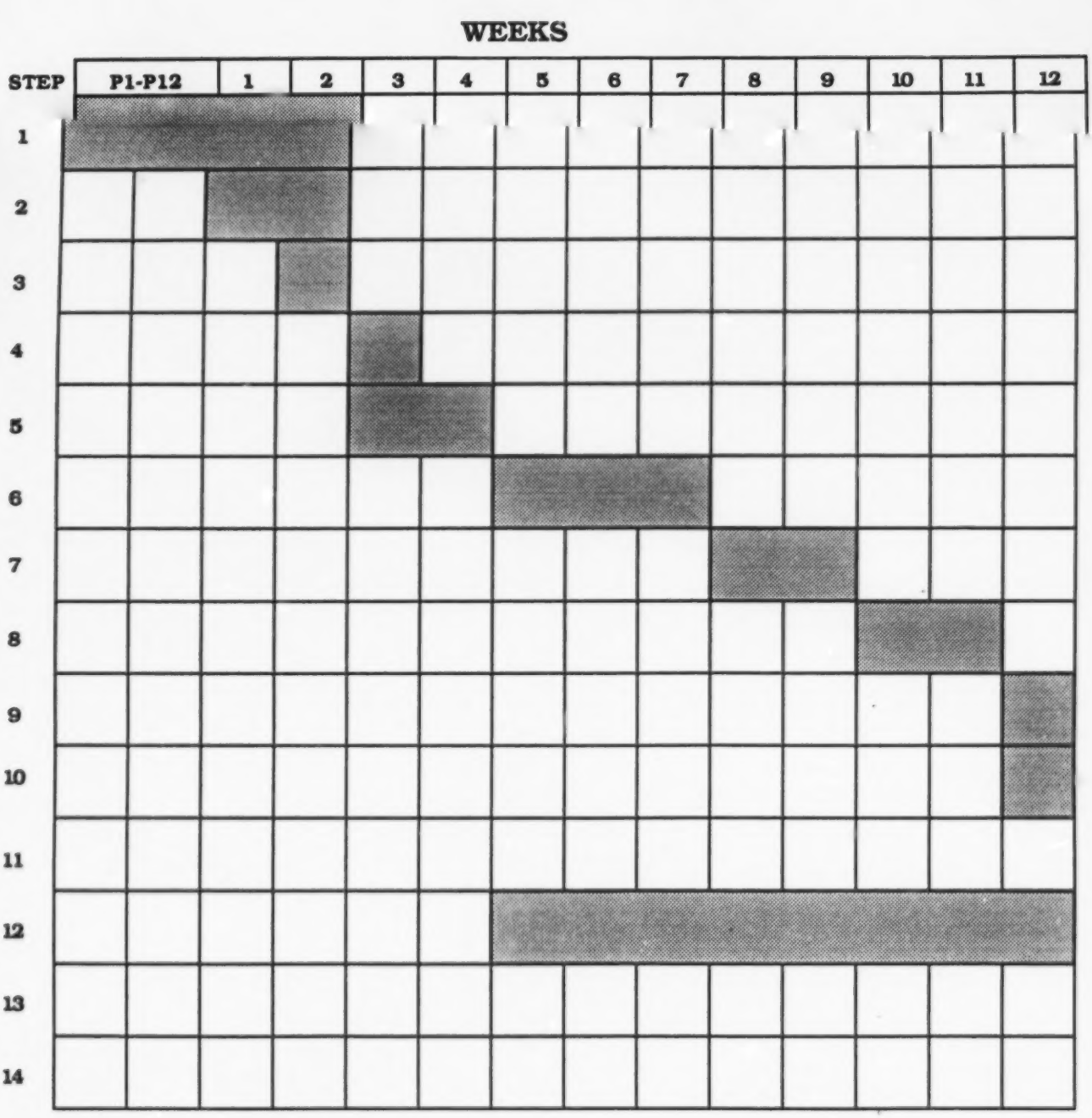
LERN (Learning Resources Network)
1550 Hayes Drive
Manhattan, KS 66502
Contact: William Draves
(913) 539-5376

The University of Texas at Austin
Extension Instruction and Materials Center
P. O. Box 7218
Austin, TX 78713-7218
Contact: Elaine Shelton
(512) 471-7716

U.S. Department of Education
Office of Vocational and Adult Education
Washington, DC 20202-7240
Contact: Sarah Newcomb
(202) 205-9872

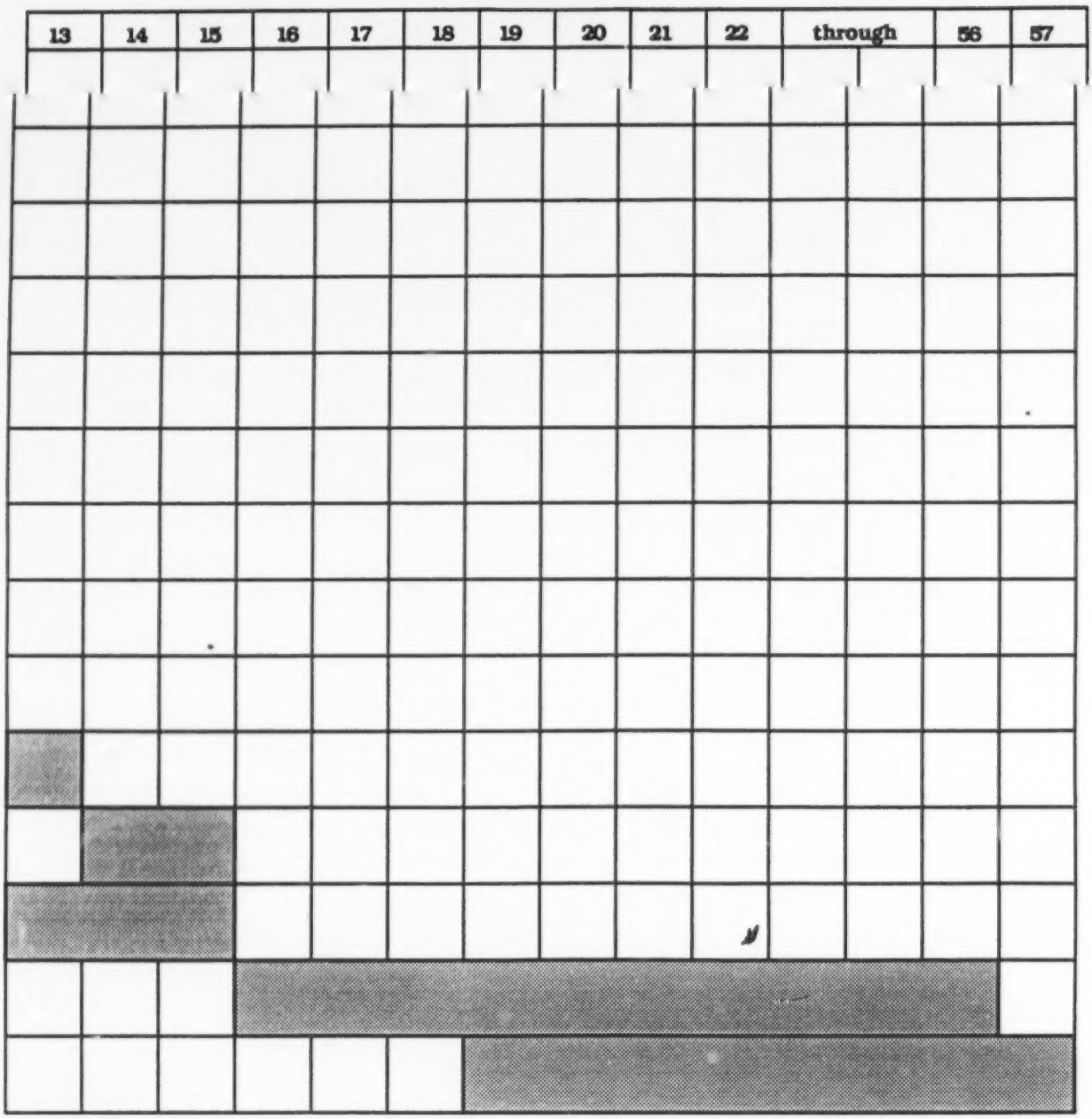
Appendix B

Timeline



Step 1: Plan in advance
Step 2: Identify departments
Step 3: Establish Advisory Committee
Step 4: Meet with supervisors
Step 5: Schedule task analyses
Step 6: Conduct task analyses
Step 7: Correlate tasks to enabling skills
Step 8: Develop assessment
Step 9: Administer assessment
Step 10: Identify participants
Step 11: Schedule classes
Step 12: Identify instructional materials
Step 13: Provide instruction
Step 14: Evaluate program impact

WEEKS



NOTE: These timelines are not to be considered anything other than close approximations of the amounts of time each task will take. The length of time for each task should be expected to vary considerably with experience and unique characteristics of and circumstances at each company.

Also, instructional time can vary considerably depending upon its comprehensiveness. This chart represents the instructional time of our complete instructional program (math, reading, writing, decision making, problem solving, and team building) but does not include breaks between modules.

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